

II. REVISIONS TO DRAFT EIS

This section contains errata to the Draft EIS, in response to public comments. The comments and responses are listed in Chapter III of this FEIS.

II.A REVISIONS TO CHAPTER 2.0 OF DEIS

(a) **Figure 2-3 in the Draft EIS should be replaced with the revised Figure 2-3 located at the end of Chapter II of this Final EIS.**

(b) **On Page 2-9, first sentence of second paragraph should be revised as follows:**

Generated power would be delivered to either the proposed BPA McNary-John Day 500-kV transmission line or the existing BPA McNary-Horse Heaven~~Big Eddy~~ 230-kV or Ross-McNary 345-kV transmission lines, all both of which are located approximately 0.6 mile north of the plant site.

(c) **On Page 2-48, the first paragraph should be revised as follows:**

As an alternative to interconnection with BPA's proposed 500-kV transmission line, the PGF could interconnect with the existing BPA McNary-Horse Heaven~~Big Eddy~~ 230 kV or Ross-McNary 345-kV transmission lines, which are both also located in the BPA right-of-way corridor approximately 0.6 mile north of the plant site. Transmission, configuration, and construction would be the same as for the proposed 500-kV transmission line, since the ~~two~~ lines are located in the same transmission corridor. The line interconnecting to the PGF would cross under the 230-kV line and interconnect with the 230/345-kV line. Figure 2-10 shows the 230/345-kV interconnection.

(d) **On Page 2-48, the fourth paragraph should be revised as follows:**

From Christy Road approximately 2.0 miles west of I-82, the existing Benton PUD line ~~runs~~turns north for approximately 0.4 mile, and then turns east again. The line continues eastward approximately 2 miles, to where it crosses I-82. Approximately 0.25 mile east of I-82, the existing BPUD line turns northeastward towards Kennewick.

The Alternate Benton PUD/BPA transmission interconnection route would connect to and follow the existing 115-kV BPUD line to a location east of I-82. Between the connection point and the location east of I-82, the BPUD line would be rebuilt to accommodate both the BPUD 115-kV line and the PGF 230-kV interconnection line. At the point east of I-82 (approximately 0.25 mile east of I-82), the alternate interconnection route would terminate its connection with the BPUD line, and tie into the existing McNary-Franklin transmission line, which currently extends from Franklin County southward across the Columbia River to the McNary Substation. A 2.0-acre switching station would be built at the tie-in point (where the interconnection switches from the BPUD line to the Franklin-McNary line).

At the Columbia River, the Alternate Benton PUD/BPA transmission interconnection route would continue as part of the McNary-Franklin line south across the Columbia

~~River and would interconnect with BPA transmission at the McNary substation. After crossing I 82, the existing BPUD line turns northeastward towards Kennewick. At this point, the alternate transmission interconnection would turn south, cross the Columbia River on existing towers, and interconnect with BPA transmission in the McNary substation.~~

(e) On page 2-48, the 6th paragraph should be revised as follows:

~~At the Columbia River, the 230-kV circuit that would interconnect the PGF would be tied into another existing BPA transmission line that already crosses the river and terminates at BPA's McNary Substation. It is assumed that Under the Alternate Benton PUD/BPA interconnection, BPA may need to upgrade replace the conductors and/or lines of this the McNary-Franklin river crossing to accommodate the PGF interconnection. with larger conductors for the portion of the line that crosses the river. This upgrade would be performed by BPA. Section 2.4.2.2 presents further detail about construction of this alternate interconnection.~~

(f) On page 2-55, the first paragraph should be revised as follows:

2.4.2.2 Construction Sequence

Construction of the Alternate Benton PUD/BPA transmission interconnection would require new construction as well as re-building of existing facilities. Starting from the PGF, the alternate interconnection would require building approximately 1.0 mile of new single-circuit 230-kV transmission line on wood poles from the PGF plant site south to Christy Road. This line would extend to a location just east of the existing Benton Rural Electric Association (BREA) substation, south of Christy Road.

From the BREA substation, the Alternate Benton PUD/BPA transmission interconnection would require that the existing BPUD 115-kV line is removed and rebuilt between the BREA substation and a point approximately 0.25 mile east of I-82 (the tie-in point). The rebuilding would involve removing the single-circuit 115-kV line and installing a double circuit 115-kV/230-kV transmission line on steel or wood poles. The 115-kV would be on one side of the structure and the 230-kV would be on the other side.

At the tie-in point, the alternate interconnection route would terminate its connection with the BPUD line, tie into the existing McNary-Franklin line at a new 2.0-acre (three-breaker) switching station, and continue south on this line to connect to the McNary Substation. If necessary, the existing McNary-Franklin 230-kV line could be rebuilt from the tie-in point to the McNary Substation. The rebuilding could consist of replacing or re-rating the existing line conductor to accommodate the increased capacity. Also, the line structures could be reinforced in place, or removed and replaced as required for the increased load on the conductors. Also, modifications and upgrades would be required inside the McNary Substation for this alternative and would be completed by BPA. replacement of the existing towers with new towers, restringing the 115-kV circuit, and stringing the new 230-kV circuit. The transmission towers would be placed adjacent to the existing towers within existing right-of-way.

II.B REVISIONS TO CHAPTER 3.0 OF DEIS

II.B.1 Section 3.1 Earth

- (a) On page 3.1-25, Section 3.1.1.3 has been revised as follows:

3.1.1.3 Alternate 230/345-kV Transmission Interconnection

The existing condition for the alternate 230/345-kV transmission interconnection is the same as for the proposed transmission interconnection because the 230-kV and 345-kV lines are ~~is~~-located in the same physical location as the proposed 500-kV line.

- (b) On page 3.1-31, Section 3.1.2.4 has been revised as follows:

3.1.2.4 Alternate 230/345-kV Transmission Interconnection

Impacts would be the same as for the proposed transmission interconnection because the 230-kV and the 345-kV lines and the proposed 500-kV lines have the same physical location.

- (c) On page 3.1-32, the third sentence of the first full paragraph should be revised as follows:

Similarly, the proposed transmission interconnection and the alternate 230/345-kV transmission interconnection would join existing BPA lines, resulting in the construction of just four to six new towers north of the plant site.

II.B.2 Section 3.2 Air Quality

- (a) The following text starting from the fourth paragraph on page 3.2-15 up to Section 3.2.2.3.2 on page 3.2-16 of the Draft EIS should be revised as follows:

Based on the recommendation of the BCAA (BCAA 2002), meteorological data for the dispersion modeling were taken from Pendleton Airport, located approximately 25 miles to the east-southeast of the plant site. A full 5-year data set from Pendleton, for the years 1987 through 1991, was used in the analysis. In addition to the analysis completed with the Pendleton dataset, a second analysis was performed using meteorological data taken from the Umatilla Army Depot (UAD) just outside of Umatilla, Oregon. UAD is located south-southwest of the plant site, on the opposite side of the Columbia River. A full 5-year data set from UAD, for the years 1996 through 2000, was used in the second analysis.

Dispersion Modeling Results

Predicted criteria pollutant concentrations from both analyses are compared to ambient air quality standards and SILs in Table 3.2-5. Table 3.2-5 indicates that concentrations predicted with the Pendleton meteorological data for all pollutants and averaging periods were lower than applicable ambient air quality standards. In addition, these

concentrations were lower than the SILs, even with the compounding conservative assumptions used in the analysis. Compared to the Pendleton analysis, the modeling analysis based on the UAD meteorological data resulted in lower 1-hour average and annual average pollutant concentrations, but higher predicted 3-hour, 8-hour, and 24-hour average pollutant concentrations. While none of these concentrations exceed ambient air quality standards, predicted 24-hour average concentrations of SO₂ and PM₁₀ using UAD data slightly exceed the applicable SILs. However, these SIL exceedances are not considered indicative of a significant air quality impact because the predicted amount of exceedance is minimal, the conservative modeling approach likely overestimates predicted concentrations, the SILs are only initial threshold screening criteria, and the predicted 24-hour average SO₂ and PM₁₀ concentrations are small fractions of the ambient standards.

Consequently, Based on this analysis, concentrations predicted using either meteorological data set attributable to the PGF would be insignificant with respect to ambient air quality standards; therefore, no significant adverse air quality impact would be expected.

**Table 3.2-5
Maximum Criteria Pollutant Predictions**

Pollutant	Averaging Time	Maximum PGF Concentration-Pendleton Met	Maximum PGF Concentration-UAD Met	Ambient Air Quality Standard	Significant Impact Level (SIL)
NO ₂	Annual	0.88	<u>0.85</u>	100	1
SO ₂	1-hour	28.26	26	1,050	NA
	3 hour	17.14	19	1,300	25
	24 hour	3.46	<u>8.6</u>	262	5
	Annual	0.17	<u>0.14</u>	52	1
CO	1 hour	116.53	<u>113</u>	40,000	2,000
	8 hour	13.67	62	10,000	500
PM ₁₀	24 hour	2.63	<u>5.3</u>	150	5
	Annual	0.39	<u>0.32</u>	50	1

Notes:

All concentrations in micrograms per cubic meter (µg/m³).

NA = not applicable

Maximum 24-hour and annual toxic air pollutant concentrations attributable to the PGF are compared to Ecology ASILs in Tables 3.2-6 and 3.2-7. In both the Pendleton and UAD analyses, the maximum predicted concentration of each pollutant is less than the applicable Ecology ASILs, implying that toxic air pollutant emissions from PGF would have an insignificant potential for adverse health effects. Thus, model results based on both sets of meteorological data indicate emissions from PGF would have a near negligible impact on local air pollutant concentrations. Consequently, no significant adverse impact from toxic air pollutant emissions is anticipated.

Table 3.2-6
Maximum 24-hour and Annual Toxic Air Pollutant Concentrations using the
Pendleton Meteorological Data

Compound	Concentrations Attributable to Each Source (µg/m ³)			Combined Concentration (µg/m ³)	ASIL (µg/m ³)	Over ASIL?
	HRSG Stack	Standby Generator	Fire Pump Generator			
1,3-Butadiene	1.7E-05	0	0	0.00002	0.0036	No
Acetaldehyde	1.6E-03	5.7E-06	4.6E-06	0.002	0.45	No
Ammonia	2.2	0	0	2.2	100	No
Arsenic	1.4E-06	0	0	0.000001	0.00023	No
Benzene	4.9E-04	1.8E-04	1.4E-04	0.0008	0.12	No
Benzo(a)pyrene	8.2E-09	0	0	0.00000001	0.00048	No
Beryllium	8.2E-08	0	0	0.0000001	0.00042	No
Cadmium	7.5E-06	0	0	0.000007	0.00056	No
Chromium VI	4.8E-06	0	0	0.000005	0.000083	No
Formaldehyde	2.9E-02	1.8E-05	1.4E-05	0.03	0.077	No
Lead	3.4E-06	0	0	0.000003	0.5	No
Nickle	1.4E-05	0	0	.0000014	0.0021	No
Nitric Oxide	2.4	6.7	5.1	14	100	No
PAH	8.8E-05	1.0E-06	8.1E-07	0.00009	0.00048	No
Propylene Oxide	1.2E-03	0	0	0.001	.27	No
Sulfuric Acid	2.25E-01	0	0	0.2	3.3	No

Table 3.2-7
Maximum 24-hour and Annual Toxic Air Pollutant Concentrations using the
UAD Meteorological Data

<u>Compound</u>	<u>Concentrations Attributable to Each Source (µg/m³)</u>			<u>Combined Concentration (µg/m³)</u>	<u>ASIL (µg/m³)</u>	<u>Over ASIL?</u>
	<u>HRSG Stack</u>	<u>Standby Generator</u>	<u>Fire Pump Generator</u>			
<u>1,3-Butadiene</u>	<u>1.4E-05</u>	<u>0</u>	<u>0</u>	<u>0.00001</u>	<u>0.0036</u>	<u>No</u>
<u>Acetaldehyde</u>	<u>1.3E-03</u>	<u>5.5E-06</u>	<u>3.4E-06</u>	<u>0.001</u>	<u>0.45</u>	<u>No</u>
<u>Ammonia</u>	<u>4.4</u>	<u>0</u>	<u>0</u>	<u>4.4</u>	<u>100</u>	<u>No</u>
<u>Arsenic</u>	<u>1.1E-06</u>	<u>0</u>	<u>0</u>	<u>0.000001</u>	<u>0.00023</u>	<u>No</u>
<u>Benzene</u>	<u>4.1E-04</u>	<u>1.7E-04</u>	<u>1.0E-04</u>	<u>0.0007</u>	<u>0.12</u>	<u>No</u>
<u>Benzo(a)pyrene</u>	<u>6.8E-09</u>	<u>0</u>	<u>0</u>	<u>0.00000001</u>	<u>0.00048</u>	<u>No</u>
<u>Beryllium</u>	<u>6.8E-08</u>	<u>0</u>	<u>0</u>	<u>0.0000001</u>	<u>0.00042</u>	<u>No</u>
<u>Cadmium</u>	<u>6.2E-06</u>	<u>0</u>	<u>0</u>	<u>0.000006</u>	<u>0.00056</u>	<u>No</u>
<u>Chromium VI</u>	<u>3.9E-06</u>	<u>0</u>	<u>0</u>	<u>0.000004</u>	<u>0.000083</u>	<u>No</u>
<u>Formaldehyde</u>	<u>2.4E-02</u>	<u>1.7E-05</u>	<u>1.1E-05</u>	<u>0.02</u>	<u>0.077</u>	<u>No</u>
<u>Lead</u>	<u>2.8E-06</u>	<u>0</u>	<u>0</u>	<u>0.000003</u>	<u>0.5</u>	<u>No</u>
<u>Nickel</u>	<u>1.2E-05</u>	<u>0</u>	<u>0</u>	<u>0.000012</u>	<u>0.0021</u>	<u>No</u>
<u>Nitric Oxide</u>	<u>4.8</u>	<u>5.1</u>	<u>4.3</u>	<u>14</u>	<u>100</u>	<u>No</u>
<u>PAH</u>	<u>7.3E-05</u>	<u>9.8E-07</u>	<u>6.0E-07</u>	<u>0.00007</u>	<u>0.00048</u>	<u>No</u>
<u>Propylene Oxide</u>	<u>9.6E-04</u>	<u>0</u>	<u>0</u>	<u>0.001</u>	<u>0.27</u>	<u>No</u>
<u>Sulfuric Acid</u>	<u>0.454</u>	<u>0</u>	<u>0</u>	<u>0.5</u>	<u>3.3</u>	<u>No</u>

Additionally, a different dispersion model, CALPUFF, was used to evaluate total sulfur and nitrogen (which includes nitrogen present as background ammonium) deposition that would be attributable to PGF's emissions in National Parks and Wilderness Areas and in the Columbia River Gorge National Scenic Area (CRGNSA). The results are presented in Table 3.2-8. The maximum total deposition (including both wet and dry deposition) attributable to PGF in the CRGNSA was estimated to be 0.00029 kg/ha/yr for sulfur and 0.00018 kg/ha/yr for nitrogen.

The Forest Service has indicated that total deposition of less than 3 kg/ha/yr for sulfur and 5 kg/ha/yr for nitrogen are unlikely to significantly affect terrestrial ecosystems in the Pacific Northwest forests.¹ The Washington Department of Ecology has further identified a value of 0.2 percent of these total deposition values as an indicator of "significance" for a single project (analogous to the Significant Impact Levels established by EPA for criteria pollutants). The incremental impacts attributable to PGF are tiny fractions of existing deposition levels in the CRGNSA and the USFS recommended cumulative deposition criteria, and less than 7 percent of the Ecology significance levels. It is unlikely that the incremental deposition of pollutants from PGF would significantly impact the ecosystem.

The CALPUFF modeling system was also used to assess concentrations of NO_x, PM₁₀, and SO₂ attributable to emissions from the facility in National Parks and Wilderness Areas and the CRGNSA (Table 3.2-9). The results indicate that PGF would not significantly contribute to concentrations of these key pollutants at any of these areas. The ambient impacts predicted to result from PGF emissions are so small that those emissions would not contribute to significant cumulative effects when combined with other sources, so a more detailed cumulative assessment of these pollutant concentrations was not warranted.

However, the CALPUFF modeling system was used to evaluate Class I area visibility effects stemming from PGF and other regional power facilities. This analysis is discussed in Appendix B.

Table 3.2-8
Annual Total Deposition Analysis Results

<u>Area</u>	<u>Annual Sulfur Deposition (kg/ha/yr)</u>				<u>Annual Nitrogen Deposition (kg/ha/yr)</u>			
	<u>Back-ground</u>	<u>PGF</u>	<u>Total</u>	<u>Change (%)</u>	<u>Back-ground</u>	<u>PGF</u>	<u>Total</u>	<u>Change (%)</u>
<u>Diamond Peak Wilderness</u>	<u>4.000</u>	<u>0.00006</u>	<u>4.000</u>	<u>0.001</u>	<u>2.200</u>	<u>0.00003</u>	<u>2.200</u>	<u>0.002</u>
<u>Three Sisters Wilderness</u>	<u>5.600</u>	<u>0.00023</u>	<u>5.600</u>	<u>0.004</u>	<u>3.600</u>	<u>0.00015</u>	<u>3.600</u>	<u>0.004</u>
<u>Mt. Jefferson Wilderness</u>	<u>4.000</u>	<u>0.00023</u>	<u>4.000</u>	<u>0.006</u>	<u>1.800</u>	<u>0.00015</u>	<u>1.800</u>	<u>0.009</u>
<u>Strawberry Mtn. Wilderness</u>	<u>1.400</u>	<u>0.00010</u>	<u>1.400</u>	<u>0.007</u>	<u>1.200</u>	<u>0.00006</u>	<u>1.200</u>	<u>0.005</u>

¹ Peterson, J. et al. 1992: *Guidelines for Evaluating Air Pollution Impacts on Class I Areas in the Pacific Northwest*. USDA Forest Service. General Technical Report PNW-GTR-299, May, 1992.

Mt. Hood Wilderness	8.600	0.00022	8.600	0.003	5.400	0.00013	5.400	0.002
CRGNSA	12.000	0.00029	12.000	0.002	10.000	0.00018	10.000	0.002
Eagle Cap Wilderness	1.600	0.00025	1.600	0.015	1.600	0.00016	1.600	0.010
Hells Canyon Wilderness	1.400	0.00027	1.400	0.019	1.200	0.00018	1.200	0.015
Mt. Adams Wilderness	10.800	0.00010	10.800	0.001	9.000	0.00006	9.000	0.001
Goat Rocks Wilderness	11.800	0.00008	11.800	0.001	9.000	0.00005	9.000	0.001
Mt. Rainier National Park	3.100	0.00005	3.100	0.002	2.400	0.00004	2.400	0.002
Olympic National Park	5.600	0.00003	5.600	0.000	2.000	0.00002	2.000	0.001
Alpine Lakes Wilderness	7.200	0.00010	7.200	0.001	5.200	0.00008	5.200	0.002
Glacier Peak Wilderness	8.000	0.00007	8.000	0.001	5.800	0.00005	5.800	0.001
North Cascades National Park	3.500	0.00006	3.500	0.002	5.200	0.00004	5.200	0.001
Pasayten Wilderness	7.200	0.00011	7.200	0.002	5.200	0.00009	5.200	0.002
Mt. Baker Wilderness	No Data	0.00005	N/A	N/A	No Data	0.00003	N/A	N/A
Spokane Indian Res.	No Data	0.00041	N/A	N/A	No Data	0.00026	N/A	N/A
Maximum	=	0.00041	12	0.019	=	0.00018	10	0.015
USFS Criteria	=	=	3.000	=	=	=	5.000	=
Ecology single-project significance level	=	0.006	=	=	=	0.010	=	=

Table 3.2-9
Maximum Concentration Predictions Attributable to PGF Emissions (µg/m3)

Area (a)	Annual Average			24-hour		3-hour
	NO ₂ (b)	PM ₁₀ (c)	SO ₂	PM ₁₀ (c)	SO ₂	SO ₂
Diamond Peak Wilderness	0.0000	0.0001	0.0000	0.005	0.001	0.002
Three Sisters Wilderness	0.0000	0.0003	0.0001	0.009	0.002	0.006
Mt. Jefferson Wilderness	0.0000	0.0004	0.0001	0.012	0.003	0.009
Strawberry Mtn. Wilderness	0.0000	0.0004	0.0001	0.016	0.005	0.019
Mt. Hood Wilderness	0.0001	0.0009	0.0002	0.033	0.009	0.021
CRGNSA	0.0003	0.0016	0.0005	0.080	0.021	0.048
Eagle Cap Wilderness	0.0001	0.0007	0.0002	0.013	0.004	0.019
Hells Canyon Wilderness	0.0001	0.0007	0.0002	0.009	0.003	0.016
Mt. Adams Wilderness	0.0000	0.0004	0.0001	0.011	0.002	0.010
Goat Rocks Wilderness	0.0000	0.0003	0.0001	0.010	0.002	0.006
Mt. Rainier National Park	0.0000	0.0002	0.0000	0.007	0.001	0.005
Olympic National Park	0.0000	0.0001	0.0000	0.005	0.001	0.003
Alpine Lakes Wilderness	0.0000	0.0002	0.0001	0.007	0.002	0.006
Glacier Peak Wilderness	0.0000	0.0002	0.0000	0.006	0.002	0.004
North Cascades National Park	0.0000	0.0001	0.0000	0.004	0.001	0.003
Pasayten Wilderness	0.0000	0.0002	0.0000	0.004	0.001	0.003

<u>Mt. Baker Wilderness</u>	<u>0.0000</u>	<u>0.0001</u>	<u>0.0000</u>	<u>0.003</u>	<u>0.001</u>	<u>0.002</u>
<u>Spokane Indian Res.</u>	<u>0.0002</u>	<u>0.0010</u>	<u>0.0003</u>	<u>0.013</u>	<u>0.005</u>	<u>0.019</u>
<u>Maximum</u>	<u>0.0003</u>	<u>0.0016</u>	<u>0.0005</u>	<u>0.08</u>	<u>0.021</u>	<u>0.048</u>
<u>EPA Proposed Class I SIL</u>	<u>0.1000</u>	<u>0.2000</u>	<u>0.1000</u>	<u>0.300</u>	<u>0.200</u>	<u>1.000</u>
<u>Percent of Class I SIL</u>	<u>0.3</u>	<u>1</u>	<u>1</u>	<u>27</u>	<u>11</u>	<u>5</u>
(a) <u>CRGNSA and Mt. Baker Wilderness areas are not Class I areas.</u>						
(b) <u>All NO_x is assumed to be converted to NO₂</u>						
(c) <u>PM₁₀ includes sulfates and nitrates.</u>						

(b) On page 3.2-17, Section 3.2.2.4 has been revised as follows:

3.2.2.4 Alternate 230/345-kV Transmission Interconnection

Impacts attributable to the alternate 230/345-kV transmission interconnection would be the same as the proposed transmission interconnection because the proposed 500-kV and the existing 230-kV and 345-kV lines are located in the same physical location.

(c) The last paragraph on page 3.2-19 has been revised as follows:

The April 2002 study indicated that emissions from the PGF would never cause changes in the extinction coefficient that exceed five percent in any of the nearby national parks and wilderness areas or the Columbia River Gorge National Scenic Area, indicating that the facility alone would not perceptibly affect visibility in any of the areas evaluated. However, the study determined that if all 15 power projects were built and operated at maximum capacity 365 days per year, they would have the potential to perceptibly affect visibility at Mount Hood 6 days per year and in the Columbia River Gorge National Scenic Area 7 days per year. In addition to potential power plants, there are several other potential future sources in the region that could generate air emission and contribute to visibility degradation at the CRGNSA and Mount Hood if developed. For a list of these potential non-power plant sources of air emissions, please see Table 3.14-1. These sources may add to the projected cumulative impact of the potential power plants in the region. Changes in extinction greater than 10 percent (implying a significant incremental impact) would occur 1 day per year at Mount Hood and in the Columbia River Gorge National Scenic Area. For additional detail on the cumulative air quality analysis, please refer to Appendix B.

II.B.3 Section 3.3 Water

(a) On page 3.3-15, Section 3.3.1.3 should be revised as follows:

3.3.1.3 Alternate 230/345-kV Transmission Interconnection

Existing conditions for the alternate 230/345-kilovolt (kV) transmission interconnection would be the same as for the proposed transmission interconnection, because the 230-kV and 345-kV lines is~~are~~ located in the same physical location as the proposed 500-kV line.

- (b) On page 3.3-23, Section 3.3.2.3 should be revised as follows:

3.3.2.3 Alternate 230/345-kV Transmission Interconnection

Impacts attributable to the alternate 230/345-kV transmission interconnection would be the same as those attributable to the proposed transmission interconnection, because the proposed 500-kV transmission line is located in the same physical location as the existing 230-kV and 345-kV transmission lines.

II.B.4 Section 3.4 Biological Resources

- (a) The first sentence in the second paragraph on Page 3.4-1 should be revised as follows:

Field investigations of the project location were conducted in February and April 2002 and February 2003.

- (b) The third full paragraph on page 3.4-2 should be revised as follows:

Shrub-steppe habitat in the site area is present in scattered patches. Concentrations of shrub-steppe habitat can be found south of SR 14 and between Plymouth Road and Interstate 82 (I-82), ~~and south of Christy Road, and east of I-82~~. Shrub-steppe habitat is also found in Fourmile Canyon, a drainage channel that runs north to south through the site area. In the Oregon portion of the site area, a shrub-steppe community can be found south of the Columbia River and north of 3rd Street.

- (c) On page 3.4-19, Section 3.4.1.3 should be revised as follows:

3.4.1.3 Alternate 230/345-kV Transmission Interconnection

The existing conditions for the alternate 230/345-kilovolt (kV) transmission interconnection would be the same as the existing conditions for the proposed transmission line, because the proposed 500-kV line and the existing 230-kV and 345-kV lines are in the same physical location.

- (d) The first full paragraph on page 3.4-20 should be revised as follows:

After running north for 0.4 mile, the existing line turns east and runs for approximately 2 miles to where it crosses I-82. The western end of this portion is nonnative grassland with small pockets dominated by native grasses. As is nears Plymouth Road, the transmission line is adjacent to two small isolated wetlands. On the east side of Plymouth Road, the transmission line crosses shrub-steppe habitat and lies adjacent to two more isolated wetlands. ~~The existing line then crosses I-82, where it connects to the BPA transmission line. The alternate Benton PUD/BPA transmission interconnection corridor continues east, crossing I-82, would follow the existing Benton PUD line until just east of I-82, where it then turns south, and ties into the existing McNary-Franklin transmission line via a switching station would.~~ This easternmost section is shrub-steppe habitat. ~~turn~~

~~south, and following the BPA transmission line south. At the Columbia River, the alternative line would cross the cliff habitat in Washington and continue south across the Columbia River. This alignment travels south and crosses the cliff habitat in Washington.~~ On the Oregon side, it crosses riparian and wetland habitat, and nonnative grassland habitat before connecting to the McNary Substation.

(e) On page 3.4-31, Section 3.4.2.4 should be revised as follows:

3.4.2.4 Alternate 230/345-kV Transmission Interconnection

Impacts due to the alternate 230/345-kV transmission interconnection would be the same as impacts from the proposed transmission interconnection because the existing 230-kV and 345-kV lines is in the same physical location as the proposed 500-kV line.

(f) The last paragraph on page 3.4-31 should be revised as follows:

The alternate Benton PUD/BPA transmission interconnection would cross four priority habitats: shrub-steppe, wetland, riparian, and cliff. However, construction would not take place in the ~~riparian or cliff~~ areas. Construction of the alternate Benton PUD/BPA transmission interconnection would have the potential for low impacts to shrub-steppe and wetland habitats adjacent to the Columbia River. Impacts to shrub habitat would occur primarily from transmission tower construction and from construction of a 2.0-acre substation east of I-82.~~No new towers would need to be constructed along this segment of the transmission interconnection.~~ An upgraded transmission circuit would be strung across the Columbia River. The river crossing structures could need to be upgraded or re-rated on the north and south sides of the Columbia River to accommodate the additional capacity. On the Oregon side, this activity would disturb a small portion of wetland and riparian habitat. Existing access roads would be used during construction; ~~and no disturbance would occur on the Oregon side of the Columbia River.~~

(g) The following sentence should be added to the end of the third paragraph on page 3.4-32:

Under the Alternate Benton PUD/BPA transmission interconnection, the new switching station needed to switch the PGF interconnecting line from the Benton PUD line to the McNary-Franklin line would be constructed east of I-82 and would disturb approximately 2.0 acres of shrub-steppe habitat.

(h) The following paragraph should be added after the third paragraph on page 3.4-32:

This alternative would include following the McNary-Franklin transmission line route around the west, south and part of the east side of the McNary Substation. The possible requirement of upgrades could involve between 4 and 5 new structures near the McNary Substation. They would be monopole structures, with an estimated disturbance area of

200 square feet each. The new structures would disturb a small amount of nonnative grassland and shrub-steppe habitat.

(i) The fifth paragraph on page 3.4-32 should be revised as follows:

In conclusion, most priority habitats along the alternate Benton PUD/BPA transmission interconnection would be avoided and no significant impacts would be expected.

(j) The following paragraph should be added after the first full paragraph on page 3.4-34:

The additional tower structures and line associated with this alternative may present a slight increase in the risk for collision or electrocution. Impacts due to collision and electrocution are described in detailed in the previous section. However, there are currently a substantial number of structures and lines comprising the existing McNary Substation. Therefore, the additional tower structures and lines associated with this alternate alignment would constitute an indistinguishable increase in collision potential for listed species and other birds.

(k) The second half of the last paragraph on page 3.4-33 (continuing on to page 3.4-34) should be revised as follows:

The alternate Benton PUD/BPA transmission interconnection would ~~upgradetie into~~ the existing McNary-Franklin 230-kV line that crosses the Columbia River to the McNary Substation. No additional towers locations across the river would be associated with the alternate Benton PUD/BPA transmission interconnection, although some existing towers could be replaced. ~~One additional circuit would span the river but would use existing towers.~~ There are currently three sets of transmission towers supporting several conducting wires. The ~~additional-wire~~ upgrade associated with the alternate Benton PUD/BPA transmission interconnection would constitute an indistinguishable increase in collision potential for bald eagles.

(l) The “Fish” subsection on page 3.4-34 should be revised as follows:

The Alternate Benton PUD/BPA transmission interconnection would cross Fourmile Canyon less than 0.5 mile from the Columbia River; however, no instream work would be required for placement of the towers or the lines. The transmission interconnection would cross the Columbia River to the east of Fourmile Canyon. The impacts from crossing the Columbia River are analyzed in the McNary-John Day Transmission Line Project DEIS (February 2002).

Construction Impacts

~~Construction of the alternate Benton PUD/BPA transmission interconnection would not result in any impacts to listed fish species because no impacts are anticipated to either Fourmile Canyon or the Columbia River. The alternate Benton PUD/BPA transmission~~

~~interconnection would cross Four Canyon less than 0.5 mile from the Columbia River; however, no instream work would be required for placement of the towers or the lines. The transmission interconnection would cross the Columbia River to the east of Fourmile Canyon. The existing towers would be used to connection. The lines would cross the river from Washington to Oregon by air or by boat. No disturbance to the shoreline is expected from either method or crossing. It is assumed that BPA would construct the additional line required under the alternate Benton PUD/BPA transmission interconnection.~~

Operation Impacts

~~Operation of the alternate Benton PUD/BPA transmission interconnection would have no impacts to listed fish species.~~

- (m) **On page 3.4-37, third sentence of the fourth paragraph should be revised as follows:**

Similarly, the proposed and alternate 230/345-kV transmission interconnections would connect with existing BPA lines in a nearby existing transmission corridor, resulting in the construction of only four to six new towers north of the plant site.

- (n) **The shrub-steppe compensation bullet at the bottom of page 3.4-37 should be revised as follows:**

Shrub-Steppe Compensation – The proposed access road would result in the removal of approximately 2 acres of degraded shrub-steppe habitat. As mitigation, Plymouth Energy would compensate for the loss by committing to contribute \$2,000 (equivalent to approximately 4 acres) to the acquisition of high value shrub-steppe habitat in Benton County. Plymouth Energy would work with the WDFW, which plans to purchase this land for preservation and management. Under the alternative Benton PUD/BPA transmission interconnection, the same compensatory mitigation would be implemented for the proposed 2-acre new substation.

- (o) **The sediment control bullet on page 3.4-38 should be revised as follows:**

Sediment Control – Implement sediment and pollution control measures as a precaution during construction of the proposed access road crossing at Fourmile Canyon. To ensure no downstream transport of disturbed materials, straw bales and silt fences would be placed downstream of the crossing location prior to construction. It is highly unlikely that any disturbed sediment would travel over a mile to the Columbia River, particularly because the channel disappears in the tilled and graded agricultural land between the BNSF railroad tracks and Christy Road. Sediment control measures for the tower replacement on the banks of the Columbia River are discussed in the McNary-John Day Transmission Line Project DEIS (February 2002).

- (p) The shoreline protection bullet on page 3.4-38 should be revised as follows:

Shoreline Protection – Construct the alternate Benton PUD/BPA transmission interconnection crossing over Fourmile Canyon and the Columbia River to ensure ~~no~~limited disturbance to the channel of the canyon or the shoreline and riparian adjacent to the river. It is assumed that BPA would string the additional line that would be required from the alternate Benton PUD/BPA transmission interconnection.

- (q) The second full paragraph on page 3.4-39 should be revised as follows:

A biological assessment ~~was~~will be prepared for the proposed project and submitted to USFWS and NMFS for ~~informal~~formal consultation.

II.B.5 Section 3.6 Environmental Health

- (a) On page 3.6-2, Section 3.6.1.3 should be revised as follows:

3.6.1.3 Alternate 230/345-kV Transmission Interconnection

The existing condition for the 230/345-kV transmission interconnection would be the same as for the proposed transmission interconnection, because the proposed 500-kV line and the existing 230-kV and 345-kV lines are located in the same physical location.

- (b) On Page 3.6-8, Section 3.6.2.4 should be revised as follows:

3.6.2.4 Alternate 230/345-kV Transmission Interconnection

Impacts attributable to the alternate 230/345-kV transmission interconnection would be the same as those for the proposed transmission interconnection because the proposed 500-kV line and the existing 230-kV and 345-kV lines are located in the same physical location.

II.B.6 Section 3.7 Noise

- (a) On page 3.7-20, Section 3.7.2.4 should be revised as follows:

3.7.2.4 Alternative 230/345-kV Transmission Interconnection

Impacts of the alternate 230/345-kilovolt (kV) transmission interconnection would be the same as those for the proposed transmission interconnection because the existing 230-kV and 345-kV lines ~~are~~is-in the same physical location as the proposed 500-kV line.

II.B.7 Section 3.8 Land Use

- (a) On page 3.8-14, Section 3.8.1.4 should be revised as follows:

3.8.1.4 Alternate 230/345-kV Transmission Interconnection

The existing conditions for the alternate 230/345-kV transmission interconnection would be the same as the existing conditions for the proposed transmission interconnection, because the 230-kV and 345-kV lines are ~~is~~-located in the same physical location as the proposed 500-kV line.

- (b) On page 3.8-15, Section 3.8.2.2, first sentence should be revised as follows:

The plant site, alternate access roads, the proposed 500-kV and alternate 230/345-kV transmission interconnections are located on land that is zoned GMA Agricultural District (GMAAD).

- (c) On page 3.8-21, Section 3.8.3.4 should be revised as follows:

3.8.3.4 Alternate 230/345-kV Transmission Interconnection

Impacts due to the alternate 230/345-kV transmission interconnection would be the same as impacts from the proposed transmission interconnection because the existing 230-kV and 345-kV lines are ~~is~~ located in the same physical location as that proposed 500-kV line.

II.B.8 Section 3.9 Visual Resources

- (a) On page 3.9-12, Section 3.9.1.3 should be revised as follows:

3.9.1.3 Alternate 230/345-kV Transmission Interconnection

The existing conditions for the alternate 230/345-kilovolt (kV) transmission interconnection would be the same as the existing conditions for the proposed transmission interconnection, because the existing 230-kV 345-kV lines are ~~is~~-in the same physical location as the proposed 500-kV line.

- (b) On page 3.9-27, Section 3.9.2.4 should be revised as follows:

3.9.2.4 Alternate 230/345-kV Transmission Interconnection

Impacts attributable to the alternate 230/345-kV transmission interconnection would be the same as those attributable to the proposed transmission interconnection because the existing 230-kV and 345-kV lines are ~~is~~ located in the same physical location as the proposed 500-kV line.

II.B.9 Section 3.10 Cultural Resources

- (a) Text beginning at the first paragraph on page 3.10-2 should be revised as follows:

A literature review and records search was completed for the site area at the Washington State Office of Archaeology and Historic Preservation in Olympia, Washington, on December 13, 2001 and October 3, 2002. Additional records were reviewed at the Office of Historic Preservation in Salem, Oregon, on February 25, 2003, in order to obtain information on sites in the vicinity of the McNary Substation, on the south side of the Columbia River. The record searches included review of ethnographic and historic literature and maps; federal, state, and local inventories of historic properties; archaeological base maps and site records; and survey reports. The record searches conducted in Olympia, Washington revealed that no prehistoric archaeological sites have been identified within the proposed plant site or along the proposed transmission line interconnection or access road corridors. The review also indicated that site area. It also indicated, however, that no little intensive archaeological survey has been reported in the vicinity of the site area. Informal reports note the presence of prehistoric conducted in this area. As discussed below, however, portions of one historic railroad grade have been recorded within the Alternate Transmission Interconnection corridor. In addition, 34 prehistoric or historic archaeological sites have been documented in the general project materials on the island in the Columbia River offshore of the community of Plymouth, well outside of the plant site, but these have not been confirmed vicinity (see Table 3.10-1). The majority of these sites lie along or immediately adjacent to the Columbia River or on a number of islands located offshore. With a few exceptions, these sites were largely recorded between 1974 and 1983 in conjunction with surveys conducted for the U.S. Army Corps of Engineers. Four sites have been recently revisited and rerecorded by staff of the Cultural Resources Protection Program of the Confederated Tribes of the Umatilla Indian Reservation.

The record search conducted in Salem, Oregon revealed the presence of one previously recorded site in the project vicinity. This site, 35UM58, was located adjacent to the southeast side of the Umatilla Toll Bridge across the Columbia River and consisted of an open campsite recorded in 1979. Excavations were conducted at the site in 1982 in conjunction with the construction of Interstate 82 across the river (Pettigrew 1983; Minor and Greenspan 1999). Construction of the bridge resulted in the destruction of the site.

Table 3.10-1
Previously Identified Sites in the Project Vicinity

<u>Site</u> <u>Trinomial</u> <u>(45 BN -)</u>	<u>Site Components</u>	<u>Date(s)</u> <u>Recorded</u>	<u>Distance to</u> <u>Project</u> <u>Alternative</u> <u>(meters)</u>
<u>71</u>	<u>Lithic scatter</u>	<u>Undocumented</u>	<u>50</u>
<u>181</u>	<u>Lithic scatter</u>	<u>1974</u>	<u>500</u>
<u>182</u>	<u>Lithic scatter/burial</u>	<u>1974/1998</u>	<u>700</u>

<u>184</u>	<u>Lithic/bone scatter</u>	<u>1974/1998</u>	<u>800</u>
<u>202</u>	<u>Lithic/groundstone/shell/ FAR scatter</u>	<u>1976</u>	<u>25</u>
<u>254</u>	<u>Paleontological (fossil bone)</u>	<u>1979</u>	<u>2,250</u>
<u>269</u>	<u>Lithic/FAR scatter (includes sites 270-273, 275, and 277-280)</u>	<u>1981/1998</u>	<u>500</u>
<u>274H</u>	<u>Historic orchard complex</u>	<u>1981</u>	<u>550</u>
<u>276H</u>	<u>Historic artifact scatter</u>	<u>1981</u>	<u>350</u>
<u>281</u>	<u>Lithic/groundstone/shell/ bone/FAR scatter</u>	<u>1980/1981</u>	<u>500</u>
<u>282</u>	<u>Lithic/ shell/FAR scatter</u>	<u>1981</u>	<u>500</u>
<u>283</u>	<u>Lithic scatter</u>	<u>1981</u>	<u>250</u>
<u>284</u>	<u>Lithic/bone/shell/ FAR scatter</u>	<u>1981</u>	<u>500</u>
<u>285</u>	<u>Lithic/bone/shell/historic artifact scatter</u>	<u>1981/1991</u>	<u>400</u>
<u>286</u>	<u>Lithic/FAR scatter</u>	<u>1981</u>	<u>450</u>
<u>287</u>	<u>Lithic/bone/shell/ FAR scatter</u>	<u>1981</u>	<u>450</u>
<u>288H</u>	<u>Lithic/shell/historic artifact scatter</u>	<u>1981</u>	<u>300</u>
<u>289</u>	<u>Lithic/shell/bone/historic artifact scatter</u>	<u>1981</u>	<u>450</u>
<u>290H</u>	<u>Prehistoric/historic artifact scatter</u>	<u>1981</u>	<u>625</u>
<u>291</u>	<u>Lithic/groundstone/shell/ Bone/FAR scatter</u>	<u>1981</u>	<u>950</u>
<u>292</u>	<u>Lithic/groundstone/shell/ Bone/FAR scatter</u>	<u>1981</u>	<u>1,200</u>
<u>293H</u>	<u>Historic homestead</u>	<u>1981</u>	<u>1,400</u>
<u>294</u>	<u>Lithic/bone/FAR scatter</u>	<u>1981/1982</u>	<u>50</u>
<u>295</u>	<u>Lithic/shell/FAR scatter</u>	<u>1957</u>	<u>180</u>
<u>322</u>	<u>Lithic/FAR scatter</u>	<u>1979</u>	<u>125</u>
<u>323</u>	<u>Lithic/bone/FAR scatter</u>	<u>1979</u>	<u>400</u>
<u>324</u>	<u>Lithic/FAR scatter</u>	<u>1979</u>	<u>700</u>
<u>325</u>	<u>Lithic/FAR scatter</u>	<u>1979</u>	<u>250</u>
<u>326</u>	<u>Lithic scatter</u>	<u>1979</u>	<u>525</u>
<u>327H</u>	<u>Prehistoric/historic artifact scatter</u>	<u>1971/2001</u>	<u>450</u>
<u>328</u>	<u>Lithic/bone/FAR scatter</u>	<u>1982</u>	<u>120</u>
<u>331</u>	<u>Rock pit</u>	<u>1983</u>	<u>1,150</u>
<u>332</u>	<u>Rock cairns</u>	<u>1983/1991</u>	<u>1,000</u>
<u>341</u>	<u>Historic Plymouth townsite</u>	<u>1983</u>	<u>100</u>
<u>345</u>	<u>Spokane, Portland and Seattle Railroad grade</u>	<u>1983</u>	<u>0</u>

As shown in Table 4-1, a majority of the sites consist of lithic scatters, many of which contain other shell and bone fragments, fire-affected rock (FAR), ground stone, and other material or artifact classes. Several of these sites are described as quite sparse. Five sites are historic in origin, while five others contain historic as well as prehistoric materials. One site is a paleontological location and contains no cultural materials.

Of the 35 sites, one is adjacent to a proposed project facility, while three are in proximity to proposed project facilities.

Site 45BN345 consists of the remains of the original Spokane, Portland, and Seattle railroad grade, constructed in 1907-1908. The line was abandoned and relocated in the 1960s, following construction of the John Day Dam, which inundated portions of the original route. In the current project area, portions of the grade are found along the south side of Christy Road, within the proposed Alternate Transmission Interconnection corridor. Much of the grade, however, has been disturbed or destroyed by road and transmission line construction activities. The existing Benton PUD transmission line along Christy Road, in fact, closely follows the railroad alignment.

Two of the three sites in proximity to proposed project facilities (Sites 45BN71 and 45BN294) are both located south of Christy Road. These sites are between 25 and 100 meters from the route of the Alternative Benton PUD/BPA Transmission Interconnection. These sites are large, dispersed lithic scatters containing flaked stone, shell, fire-affected rock, and other materials largely exposed in small pockets in a sandy setting between Christy Road and the Columbia River. Within this portion of the Alternative PUD/BPA Transmission Interconnection corridor, the original ground surface has been graded and filled during the construction of the road and the existing transmission line; large piles of dredging spoil and other fill materials are also present. No evidence of archaeological materials was noted within this corridor.

The third site (45BN202) in proximity to the Alternate Benton PUD/BPA Transmission Interconnection corridor lies within the existing BPA transmission line right-of-way, along the shoreline of the Columbia River where the line crosses south to the Oregon side of the river. Proposed project-related activities at this location are limited to upgrading of an existing transmission line, with no additional ground disturbance.

Of the remaining 31 sites, 17 sites are more than 500 meters from any proposed project facilities, and 14 sites are from 100 to 500 meters from any proposed project facilities.

(b) Text beginning at the sixth paragraph on page 3.10-3 should be revised as follows:

~~In general, these sequences can be divided into a number of periods. While a few Paleo-Indian occupations older than 10,000 years have been identified (Beckham et al. 1988), the earliest well-documented sites date from 8,000 B.C. to 6,000 B.C. and are represented by large, lanceolate Windust type projectile points. Other associated artifacts of this period include edge-ground cobbles, isolated fluted points and crescents, and occasional millingstones and handstones. Major artifact types suggest the presence of a nomadic hunting economy oriented toward the taking of large mammals supplemented by fish, small game, plants, and shellfish. Settlements would have been seasonal and located within resource locations. Resource locations included upland hunting and gathering sites and riverine fishing and shellfish-gathering sites.~~

~~During the next period (6,000 B.C. to 4,000 B.C.), the same general economic focus was employed by the Native American inhabitants of the region. Game hunting, however, appears to have decreased in importance with a subsequent increase in the use of riverine~~

resources. Artifacts occurring during this period included edge-ground cobbles, oval knives, large scrapers, millingsstones and handstones, and various antler and bone tools.

Between 4,000 B.C. and 1,500 B.C., the economic focus became more diversified than in previous periods. The gathering of both plant and shellfish resources dominated the subsistence activities, with hunting and fishing becoming secondary, yet still significant, sources of sustenance. Large, side-notched projectile points of the Northern, Bitterroot, and Cold Springs² series were the period markers. Other artifacts of this period include both millingsstones and mortars with their associated counterparts (handstones and pestles respectively).

The fourth period (1,500 B.C. to AD 250) was a time of transformation for the inhabitants of the Columbia River Plateau. Cultural influences from Canadian Plateau groups were making inroads into the region. A riverine economy based on the use of anadromous fish was developing. Hunting and gathering continued but at a much decreased level. Artifacts associated with this period included contracting or tanged-stemmed Frenchman Springs or Rabbit Island projectile points, microblades, notched net sinkers, hopper mortars, pestles, antler and bone wedges, stone celts and mauls, and bone hunting and fishing implements.

By the fifth period (AD 250 to AD 1730), the riverine-based economy predominated. Large, semi-permanent villages occurred along the Columbia River floodplains and at the mouths of its major tributaries. Small, seasonal resource procurement camps were located within resource locations. A variety of small projectile points occurred at this time. In addition, the representative tool kit contained tailed-end scrapers, notched net sinkers, mauls, block and slab millingsstones, shell beads, and bone harpoon heads.

The period from AD 1730 to AD 1810 was marked by the presence of items of Euro-American manufacture, including glass and copper beads, guns, and various iron implements. The general pattern of reliance upon riverine resources continued; however, cultural influences from Plains groups appear. With the introduction of the horse, excursions to the Plains were made by mounted hunters in search of buffalo, and larger villages became trade centers. Artifacts of Native American origin include a variety of small projectile points, and notched and perforated net sinkers.

During the ethnohistoric period (AD 1770—AD 1860), a general breakdown of precontact Native American lifeways occurred due to repeated interaction with Euro-Americans. While fishing remained the primary subsistence activity, hunting and gathering grew in importance, resulting in a return to a more generalized subsistence base. The artifact inventory resembled that of the previous period, but the presence of Euro-American trade goods continued to increase.

The reservation period (AD 1860—present) represents the era in which Native American groups were coerced into adopting Euro-American lifeways (e.g., farming or ranching);

² Northern, Bitterroot, and Cold Springs are artifact time markers used by archaeologists to distinguish periods of prehistory.

resulting in the reduction or replacement of Native American subsistence practices. This period was marked by the nearly complete abandonment of Native American tools and subsequent adoption of Euro-American trade and consumer goods.

Ames and colleagues (1998) divide the prehistoric sequence into three temporal periods, each defined by specific technological or sociopolitical characteristics. These periods include: Period I (9500 - 5000/4400 B.C.), Period II (5000/4400- 1900 B.C.), and Period III (1900 B.C. – A.D. 1720).

Period I reflects initial human occupation of the Southern Plateau region, and is subdivided into two subperiods: Period IA and Period IB. Period IA (9,500 – 9,000 B.C.) reflects the earliest evidence of human occupation of this region and corresponds to the Paleo-Indian period noted elsewhere in North America, exemplified by fluted projectile points. The only known intact deposit of this age in the Southern Plateau area is the Richey-Roberts Clovis Cache (Mehringer 1989). Other Paleo-Indian finds within this region are rare and have consisted entirely of surface finds (Galm et al. 1981; Hollenbeck 1987).

Period IB (9,000 – 5000/4400 B.C.) reflects the first Archaic cultures of the Southern Plateau region, defined as hunter-gatherer groups who practiced a broad-spectrum subsistence economy focused on a wide array of food resources and high seasonal and annual mobility. Given these conditions, populations were likely low and tool kits reflected maximum flexibility (Ames 1998:103). Sites reflecting Period IB components include McNary Reservoir (Shiner 1961), Indian Well (Butler 1959), Goldendale (Warren et al. 1963), Bobs Point (Minor and Toepel 1986), Wildcat Canyon (Dumond and Minor 1983), and Marmes Rockshelter (Cressman et al. 1960). Sites from this period represent facets of a broadly oriented hunting-gathering economic adaptation that included fishing, hunting of terrestrial mammals, migratory birds, and the gathering of vegetable resources.

Period II (5000/4400 - 1900 B.C.) marks important settlement and subsistence changes in some areas of the southwest Southern Plateau and occupational hiatus in others. Semi-subterranean pit houses appear for the first time, along with evidence of increased levels of camas root and salmon exploitation. A continued pattern of residential mobility rather than stable settlements has been suggested (Ames et al. 1998). Sites dating to this period are rare within the southwest Southern Plateau. There are no clearly defined habitation sites and evidence is generally scant. The best evidence of Period II occupation is found at Hobo Cave (Musil 1984). Other sites with small, Period II assemblages include Wildcat Canyon (Dumond and Minor 1983), Fivemile Rapids (Cressman et al. 1960), and the Hook site.

Period III (1900 B.C. - A.D. 1720) is characterized by the widespread reappearance of pit houses (Ames 1991; Chatters 1989), intensified fishing practices (Johnston 1987; Thomson 1987), evidence of storage (Chatters and Pokotylo 1998), intensive exploitation of camas root (Thomson 1987), and a land-use pattern similar to that encountered during ethnographic times. Land-use and settlement-subsistence practices included seasonal, winter-early spring villages in canyons and summer-fall exploitation of upland

mountains. The termination of Period III corresponds with the arrival of Europeans and the introduction of the horse in A.D. 1720.

Period III land-use patterns favor house pit villages, which were often located on terraces of very small streams that flow into a larger river (Ames 1998:111). Very large concentrations of pit houses have been found in the region, and are indicative of higher population densities. These house pit clusters are suggested to be the remains of winter residences, or “winter villages” (Nelson 1973; Swanson 1962). The best example of this is the Miller Site on Strawberry Island near the confluence of the Snake and Columbia rivers (Cleveland 1976; Schalk 1980; Schalk and Cleveland 1983).

Subsistence patterns involved intensified fishing and camas root exploitation, although faunal remains continue to reveal numerous elk, deer, sheep, sometime pronghorn and, in rare instances, bison. A certain level of continuity with the proceeding Period II is shown in assemblages with exceptions with regard to shifts in housing styles, the adoption of some artifact and burial styles, and an increase in the number and diversity of items in the exchange network

Within the southwestern Southern Plateau subregion, Period III is further organized into two subperiods: Subperiod IIIA (1000 B.C. – A.D. 1000) and Subperiod IIIB (A.D. 1000 – Contact). Archaeological research within the southwest Southern Plateau subregion has revealed local variations in some aspects of Columbia River prehistory during Subperiod IIIA. Investigations at more than 30 prehistoric houses in the John Day Reservoir area and the Dalles (Cole 1967, 1969) provides evidence for the use of round-to-square or rectangular houses, 3-8 meters across, with areas of charcoal or stone-ringed fireplaces, sometimes with superimposed floors. Populations are thought to have resided during certain season in semi-subterranean houses or in mat lodges. During other seasons, use was made of non-permanent, tent-like shelters set on the ground surface.

Subperiod IIIB is distinguished from Subperiod IIIA by some shift in housing styles and the adoption of artifact styles and burial practices from downriver groups. Habitations characteristic of Subperiod IIIB include aboveground lodges, possibly mat-covered, particularly within the John Day Reservoir area. At Wakemap Mound, in the Dalles area, mat-lodge dwellings set into the ground were preferred. Additionally, rectangular plank houses set over subterranean pits were also used and reflect similarities to the Chinook house style known downstream (Caldwell 1956). Subsistence patterns witnessed little change from the preceding period, with faunal remains continuing to reveal a focus on fishing and procurement of land animals including deer, elk, mountain sheep, and some bison and antelope.

Ethnography

The Columbia Plateau culture area (Plateau) is generally considered to lie between the Rocky Mountains to the east and the Cascade Range to the west, extending north into central British Columbia and south as far as the Klamath and Modoc areas of northern California. The Plateau was characterized by Kroeber (1939) as a The Plateau has been characterized as a distinct cultural region of “absences and low intensity culture.”

~~particularly when compared to the more highly developed cultures represented on area~~
~~since as early as the late nineteenth century, characterized by regional influences from the~~
~~Northwest Coast and Plains. Kroeber (1939) noted a series of sub-areas varying in terms~~
~~of the degree of influence received from each of these two more complex culture areas.~~
Plains cultural areas (Walker 1998:1; Kroeber 1939). With the exception of some
Athapsacan and Kutenai speakers in the far north, the Plateau is divided between two
large linguistic blocks: Interior Salish and Sahaptin. The Sahaptin area roughly
corresponds to the dry, unforested southern portion of the Plateau, while the Salishan
relates to the more timbered regions north of the Columbia and Spokane Rivers (Ray
1936).

The site area is located within an area traditionally used by the Umatilla and Walla
~~Walla and Umatilla~~ groups. Information on these groups has recently been summarized
by Stern (1998). The Umatilla and Walla Walla and Umatilla were speakers of dialects of
the Sahaptin language, which in turn is part of the larger Penutian language family.
Other Sahaptin divisions of the Plateau were the Yakama, Cayuse, Klickitat, Nez Perce,
Palous, Tenino, Tyigh, and a number of lesser known tribes (Berreman 1937; Curtis
1911; Hodge 1907; Irwin 1975; Jacobs 1931; Ray 1936). Intermarriage was pervasive
among many of these groups, giving rise to villages with composite populations that
might include Walla Wallas, Yakamas, and Umatillas or Yakamas, Umatillas, and
Western Columbia River Sahaptins (Stern 1998).

The seasonal subsistence and settlement system was directly related to the topography
and availability of resources within the area. The Umatilla and Walla Walla and Umatilla
~~Walla and Umatilla~~ wintered in their semi-permanent villages along the Columbia River and its tributaries at
favorable fishing sites. Families spent much of the spring, summer, and fall in seasonal
camps procuring available resources. This ecological adaptation provided these groups
with an abundant resource base. The patterns were elaborated, but not changed
substantially, as were those of their neighbors, with the introduction of the horse (Meinig
1968).

Besides the dwellings, consisting of semi-subterranean mat lodges, various structures for
sweating and storage were present within the confines of the Umatilla and Walla
~~Walla and Umatilla~~ villages. Seasonal camps were made up of flat-roofed sheds that
doubled as living quarters and fish drying shelters. With increasing Plains influences,
tipis constructed of bulrush mats layered over cottonwood frames were utilized (Maxwell
1978).

(c) Text beginning at the last paragraph on page 3.10-7 should be revised as follows:

The plant site is located on a terrace above and approximately 0.75 mile north of the
Columbia River shoreline, adjacent to and north of the existing Williams Co. compressor
station. The area is now open and currently lacking in vegetation, but has been used for
fruit production in the recent past. Evidence of irrigation and tree removal are present
throughout the plant site, ~~and~~ resulting in considerable ground disturbance. Ground
visibility in much of this area was excellent. The plant site was subject to a systematic

pedestrian inventory using survey transects spaced at an average of 15- to 20-meter (49- to 66-foot) intervals. No cultural materials or features were observed within this area.

3.10.1.2.2 Transmission Interconnection

The proposed transmission interconnection would be placed within a narrow (200-foot) corridor extending approximately 0.6 mile north of the plant site. The southern portion of this corridor is much like the proposed plant site in character. It is open and largely lacking in vegetation, but has also been used for fruit production in the recent past. Evidence of irrigation and tree removal are present throughout this area, ~~and resulting in considerable ground disturbance.~~ Ground visibility is excellent. To the north, however, the corridor enters a higher terrace used for corn and other agricultural production. Ground visibility in this area averaged approximately 50 percent. The entire transmission corridor was subject to systematic pedestrian inventory using survey transects spaced at an average of 15- to 20-meter intervals. No cultural materials or features were observed within this corridor.

3.10.1.2.3 Access Road

The proposed access road would enter the plant site from the northeast. Portions of this road follow existing paved or graded gravel access roads that pass through open agricultural lands. As the road nears the plant site, it would leave existing roadways and enter open agricultural lands currently lacking in vegetation. Previously, this area was used for fruit production. Evidence of irrigation and tree removal are present throughout this area, and ground visibility is excellent. ~~The~~ With the exception of paved surfaces, the entire road corridor was subject to systematic pedestrian inventory using survey transects spaced at an average of 15- to ~~20-~~20-meter intervals. No cultural materials or features were observed within this corridor.

(d) On page 3.10-8, Section 3.10.1.3 should be revised as follows:

3.10.1.3 Alternate 230/345-kV Transmission Interconnection

The existing conditions for the alternate 230/345-kilovolt (kV) transmission interconnection would be the same as the existing conditions for the proposed transmission interconnection because the existing 230-kV and 345-kV lines are ~~is~~-located in the same physical location as the proposed 500-kV line.

(e) Text beginning at the last paragraph of page 3.10-8 should be revised as follows:

The proposed alternate Benton Public Utility District (PUD)/BPA transmission interconnection would run along the south side of Christy Road for approximately 2 miles, turn north for 0.4 mile, and continue east for approximately 2 miles, at which point it would cross I-82. The alignment then turns south at a proposed 2.0-acre switching station along the existing McNary-Franklin transmission line, and follows this existing line across the Columbia River into Oregon. On the Oregon side, the alignment connects into the McNary Substation.

The area immediately south of the plant site lies adjacent to the eastern end of the existing compressor station and is much like the plant site in character. It is open and largely lacking in vegetation but has also been used for fruit production in the recent past. Evidence of irrigation and tree removal is present throughout the plant site, and ground visibility is excellent. The terrain along Christy Road is composed largely of cut and fill associated with road construction. Little natural ground surface or vegetation is present. At the end of this section, the corridor turns north for 0.4 mile (as stated above), then turns east again and continues to Interstate 82 (I-82) and the existing Columbia River crossing of the BPA McNary/~~Franklin-John Day~~ 500-kV lines. Much of this portion of the corridor crosses relatively undisturbed, flat to gently rolling terrain marked by some areas of native vegetation. The entire alternate transmission interconnection corridor, including the existing transmission line, the proposed substation location east of I-82, and alternate corridors accessing the McNary Substation in Oregon, was subject to systematic pedestrian inventory using survey transects spaced at an average of 15- to 20-meter intervals. Site 45BN345, the remains of the Spokane, Portland, and Seattle railroad grade, parallels Christy road and the existing Benton PUD line. Consequently, approximately 2 miles of this grade is located within the proposed transmission interconnection corridor. This grade has been impacted by the construction of Christy Road, the existing transmission line, and a number of minor roads which leave Christy Road to access private parcels to the south. As a result, the grade shows poor integrity and is difficult to identify in some areas. Thus, this site does not appear to meet the criteria of eligibility necessary for nomination to the National Register of Historic Places. In addition, site 45BN202 lies within the existing BPA transmission line right-of-way, along the shoreline of the Columbia River where the line crosses south to the Oregon side of the river. No cultural materials or features were observed within this corridor.

One archaeological site, temporarily designated BP-1, was identified in this corridor, on the south side of the Columbia River, east of the southern abutment of the interstate bridge. This site consists of several concentrations of historic debris dating to approximately the 1930s, as well as a single obsidian flake that may be related to prehistoric site 35UM58. This site does not appear to meet any of the criteria of eligibility necessary for nomination to the National Register of Historic Places.

As noted above in the discussion of the archaeological record search, several archaeological sites have been documented along and adjacent to the Columbia River south of this alternative. Two of these sites (45BN71 and 45BN294) lie between 25 and 100 meters from the route of the Alternate Benton PUD/BPA Transmission Interconnection. This area is highly disturbed, however, and no indication of these sites was identified within the proposed project corridor.

(f) On page 3.10-9, Section 3.10.2.4 should be revised as follows:

3.10.2.4 Alternate 230/345-kV Transmission Interconnection

The existing 230-kV and 345-kV transmission lines ~~are~~ is located in the same physical location as the proposed 500-kV line. Therefore, similar to the proposed transmission

interconnection, construction of the alternate 230/345-kV transmission interconnection would have no effect on known cultural resources.

(g) Text beginning at the sixth paragraph on page 3.10-9 should be revised as follows:

No archaeological materials were observed within the alternate Benton PUD/BPA transmission interconnection corridor. As a result, construction of the line would have no effect on known cultural resources. Site 45BN345, the remains of the Spokane, Portland, and Seattle railroad grade, parallels Christy road and the existing Benton PUD line. Consequently, approximately 2 miles of this grade is located within the proposed transmission interconnection corridor. As discussed above, this grade has been impacted by the construction of Christy Road, the existing transmission line, and a number of minor roads that leave Christy Road to access private parcels to the south. The grade thus shows poor integrity, and it therefore appears that this site does not meet the criteria of eligibility necessary for nomination to the National Register of Historic Places.

In addition, a number of archaeological sites have been documented along and adjacent to the Columbia River south of this alternative, and several of these have been determined eligible for nomination to the National Register of Historic Places. Two of these sites (45BN71 and 45BN294) lie between 25 and 100 meters from the route of the Alternate Benton PUD/BPA Transmission Interconnection. Because project activities along this segment of this alternative would be limited to replacing the existing Benton PUD transmission towers and reconductoring the line, this alternative would not be expected to affect these sites. In addition, this area is highly disturbed and no indication of these sites was identified within the proposed project corridor. However, the existence of these nearby documented sites indicated that the potential for the presence of archaeological resources within the corridor is high.

Two additional sites, 45BN202 and (temporary site number) BP-1, lie within or adjacent to the proposed Columbia River crossing. For both sites, because project activities at these locations would be limited to upgrading an existing transmission line with no ground disturbance expected to occur, no effect to these cultural resource sites would be expected. In addition, as mentioned above, it does not appear that site BP-1 meets any of the criteria of eligibility necessary for nomination to the National Register of Historic Places.

(h) Text beginning at the first paragraph on page 3.10-10 should be revised as follows:

No Limited prehistoric archaeological materials were identified within the proposed plant site or within any of the infrastructure corridors. These materials are all associated with the Alternate Transmission Interconnection corridor. They include one historic railroad line (site 35BN345) located along Christy Road, one lithic scatter site (45BN202) located on the Washington shoreline of the Columbia River, and a 1930s historic trash scatter (temporary number BP-1) and single artifact (possibly related to prehistoric site 35UM58) located on the Oregon side of the Columbia River. If this alternative were

selected, appropriate mitigation measures would be implemented as determined through consultation with tribes and state historic preservation officers. Such measures could include flagging and avoidance of resources, and data collection and evaluation. ~~Therefore, the PGF would not result in impacts to known cultural resources. Although no archaeological materials were identified within the proposed plant site or within any of the infrastructure corridors,~~

In addition, it is possible that unidentified archaeological materials or features are present within the plant site or infrastructure corridors. Previously documented archaeological sites are present within one mile of any such of the proposed PGF facility, as well as in the near vicinity of the Alternate Benton PUD/BPA Transmission Interconnection corridor. Although no prehistoric archaeological materials were noted during inventory of these areas, they should be considered sensitive and may contain unidentified archaeological materials. Consequently, prior to construction of the selected alternative, probing to test for buried deposits in areas where ground-disturbing activities would occur should be conducted. Archaeological materials identified during the probing activities should be subject to additional testing, evaluation, and mitigation, if appropriate. Furthermore, construction and other ground-disturbing activities should be monitored. If any archaeological materials are encountered during these construction or other ground-disturbing activities, all activities in the vicinity should stop until the significance of the discovery could be evaluated by a qualified archaeologist. If the discovery were determined significant, mitigation would be necessary.

3.10.4 Mitigation Measures

As stated above in Section 3.10.3, if recorded archaeological resources present within the Alternate Transmission Interconnection corridor were determined significant and would be impacted, or if previously unidentified archaeological materials or features were to be discovered during construction or ground-disturbing activities, and the discovery were to be determined as significant, mitigation would be necessary. As appropriate, the Washington or Oregon State Office of Archaeological and Historic Preservation would determine appropriate mitigation.

(i) The following references should be added to the References on pages 3.10-10 through 3.10-12:

Ames, Kenneth M. Sedentism: A Temporal Shift or a Transitional Change in Hunter-Gatherer Mobility Patterns. Pp. 108-134 in *Between Bands and States*. Susan Gregg, Ed. Southern Illinois University at Carbondale, Center for Archaeological Investigations. Occasional Paper No. 9. Carbondale.

Butler, B. Robert. Lower Columbia Valley Archaeology: A Survey and Appraisal of Some Major Archaeological Resources. *Tebiwa: Journal of the Idaho State University Museum* 2(2):6-24. Pocatello.

Caldwell, Warren W. 1956 *The Archaeology of Wakemap: A Stratified Site near The Dalles of the Columbia*. Ph.D dissertation, Department of Anthropology, University of Washington, Seattle.

Chatters, James C. Resource Intensification and Sedentism on the Southern Plateau. *Archaeology in Washington* 1:3-19. Bellingham, Washington.

Chatters, James C. and David L. Pokotylo. Prehistory: Introduction. In *Plateau*, edited by Deward E. Walker, Jr., pp. 73-80. *Handbook of North American Indians*, volume 12. W.C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Cleveland, Gregory C., ed. Preliminary Archaeological Investigations at the Miller Site, Strawberry Island, 1976: A Late Prehistoric Village Near Burbank, Franklin County, Washington. Washington State University. Washington Archaeological Research Center, Project Report No. 46. Pullman.

Cole, David L. 1967 *Archaeological Research of Site 35SH23, the Mack Canyon Site*. University of Oregon, Museum of Natural History. Submitted to U.S. Department of the Interior, Bureau of Land Management.

1967 and 1968 Archaeological Excavations at the Mack Canyon Site: Interim Report 1968. University of Oregon, Museum of Natural History, Eugene.

Cressman, Luther S., David L. Cole, Wilbur A. Davis, Thomas M. Newman, and Daniel J. Scheans. 1960 *Cultural Sequences at The Dalles, Oregon: A Contribution to Pacific Northwest Prehistory*. *Transactions of the American Philosophical Society*, n.s. 50(10). Philadelphia.

Galm, Jerry R., Glenn D. Hartmann, Ruth A. Masten, and Garry Owen Stephenson. A Cultural Resources Overview of the Bonneville Power Administration's Mid-Columbia Project, Central Washington. Bonneville Cultural Resources Group Report No. 100-16, Cheney, Washington.

Hollenbeck, Jan L. A Cultural Resource Overview: Prehistory, Ethnography and History: Mt. Baker-Snoqualmie National Forest. Program Assessment by Madonna Moss. USDA Forest Service, Pacific Northwest Region, Portland, Oregon.

Johnston, Robbin T. Archaeological Evidence of Fishing in the Southern Plateau, a Cultural Area of the Columbia Plateau. M.S. Thesis in Anthropology, University of Idaho, Moscow.

Mehringer, Peter J., Jr. 1989 Age of the Clovis Cache at East Wenatchee, Washington. Washington State University, Department of Anthropology, Pullman: Report to the Washington State Historic Preservation Office.

Minor, Rick and Ruth L. Greenspan. The Umatilla Bridge Site: Pre-and Post-Mazama Occupation in the Middle Columbia River Region, Oregon and Washington. Heritage Research Associates Report No. 240, Eugene, Oregon.

Minor, Rick, and Kathryn Anne Toepel 1986 Archaeological Assessment of the Bob's Point Site (45KL219), Klickitat County, Washington. *Occasional Papers of the Idaho Museum of Natural History* 34. Pocatello.

Musil, Robert R. 1984 Hobo Cave: A Resurrection. Ms. On file, Oregon Museum of Anthropology, University of Oregon, Eugene.

Nelson, Charles M. Prehistoric Culture Change in the Intermontane Plateau of Western North America. Pp. 371-300 in *The Explanation of Culture Change: Models in Prehistory. Proceedings of a Meeting of the Research Seminar in Archaeology and Related Subjects. Held at the University of Sheffield, 1971. Collin Renfrew, ed. London: Duckworth.*

Schalk, Randall F. Cultural Resource Investigations for the Second Powerhouse Project at McNary Dam, Near Umatilla, Oregon. Laboratory of Archaeology and History, Washington State University. Pullman.

Schalk, Randall F., and Gregory C. Cleveland. 1983 A Chronological Perspective on Hunter-Gatherer Land Use Strategies in the Columbia Plateau. Pp. 11-56 in *Cultural Resource Investigations for the Lyons Ferry Fish Hatchery Project, Near Lyons Ferry, Washington. Randall F. Schalk, ed. Washington State University Laboratory of Archaeology and History, Project Report No. 8. Pullman.*

Shiner, Joel L. 1961 The McNary Reservoir: A Study in Plateau Archeology. River Basin Surveys Papers, No. 23. *Smithsonian Institution Bureau of American Ethnology, Bulletin* 179:149-266. Washington, D.C.

Thomison, Patrick. When Celilo Was Celilo: An Analysis of Salmon Use During the Past 11,000 Years in the Columbia Plateau. M.A. Thesis in Anthropology, Oregon State University, Corvallis.

Walker, Deward E., Jr. 1998 Introduction. In *Plateau*, edited by Deward E. Walker, Jr., pp. 73-80. *Handbook of North American Indians*, volume 12. W.C. Sturtevant, general editor. Smithsonian Institution, Washington, D.C.

Warren, Claude N., Allan L. Bryan., and Donald R. Tuohy. 1963. The Goldendale Site and Its Place in Plateau Prehistory. *Tebiwa* 6(1):1-21.

II.B.10 Section 3.11 Transportation

- (a) **On page 3.11-5, the first sentence of the first paragraph should be revised as follows:**

Input for the LOS analysis of the unsignalized intersection of SR 14 and Plymouth Road included the peak hour traffic count (listed in Table 3.11-1), the intersection data from WSDOT, truck percentages data from WSDOT, and geometric road information (e.g., number of lanes, width, configuration, and grade) (Eldried 2002).

- (b) **On page 3.11-7, Section 3.11.1.3 should be revised as follows:**

3.11.1.3 Alternate 230/345-kV Transmission Interconnection

The existing conditions for the alternate 230/345-kV transmission interconnection would be the same as the existing conditions for the proposed transmission interconnection because the existing 230-kV and 345-kV lines are~~is~~ in the same physical location as the proposed 500-kV line.

- (c) **On page 3.11-14, Section 3.11.2.4 should be revised as follows:**

3.11.2.4 Alternate 230/345-kV Transmission Interconnection

The impacts attributable to the 230/345-kV transmission interconnection would be the same as the impacts attributable to the proposed transmission interconnection because the existing 230-kV and 345-kV lines are~~is~~ located in the same physical location as the proposed 500-kV line.

- (d) **On page 3.11-19, the third reference should be revised as follows:**

Eldried, Doug, WSDOT, Yakima. 2002. Personal communication with Julie Blakeslee of URS. March 5, 2002.

II.B.11 Section 3.12 Public Services and Utilities

- (a) **On page 3.12-6, Section 3.12.1.3 should be revised as follows:**

3.12.1.3 Alternate 230/345-kV Transmission Interconnection

The existing conditions for the alternate 230/345-kilovolt (kV) transmission interconnection would be the same as the existing conditions for the proposed transmission interconnection because the existing 230-kV and 345-kV lines are~~is~~ located in the same physical location as that proposed 500-kV line.

(b) On page 3.12-13, Section 3.12.2.4 should be revised as follows:

3.12.2.4 Alternate 230/345-kV Transmission Interconnection

Impacts due to the alternate 230/345-kV transmission interconnection would be the same as those that occur due to the proposed transmission interconnection, because the existing 230-kV and 345-kV lines ~~are~~ is located in the same physical location as the proposed 500-kV line.

II.B.12 Section 3.13 Socioeconomics

(a) On page 3.13-12, Section 3.13.1.4 should be revised as follows:

3.13.1.4 Alternate 230/345-kV Transmission Interconnection

The existing condition for the 230/345-kilovolt (kV) transmission interconnection would be the same as for the proposed transmission interconnection because the existing 230-kV and 345-kV lines ~~are~~ is located in the same physical location as the proposed 500-kV line.

(b) On page 3.13-17, Section 3.13.2.3 should be revised as follows:

3.13.2.3 Alternate 230/345-kV Transmission Interconnection

Impacts attributable to the alternate 230/345-kV transmission interconnection would be the same as those attributable to the proposed transmission interconnection because the existing 230-kV and 345-kV lines ~~are~~ is located in the same physical location as the proposed 500-kV line.

II.C REVISIONS TO CHAPTER 4.0 OF THE DEIS

(a) Table 4-1 of the DEIS has been revised as follows.

Table 4-1
Plymouth Energy Project Permits and Approvals

Type of Permit/Approval	Permit or Requirement	Lead Agency	Comments
Air-related permits	Notice of Construction Approval (Air Permit)	Benton Clean Air Authority	• Accepted complete May 2002 Submitted to BCAA.
	Acid Rain Certificate	Benton Clean Air Authority	• Filed June 2002 Certificate of Representation submitted to U.S. EPA on September 4, 2002.
	Title V Air Operating Permit	Benton Clean Air Authority	• Permit to be filed after PGF is in operation.-
Land use approvals	<ul style="list-style-type: none"> • Conditional Use Permit • SEPA Compliance/EIS 	Benton County	<ul style="list-style-type: none"> • SEPA Checklist/CUP Application to initiate filed Dec. 17, 2001. • SEPA compliance via joint Benton County/BPA EIS • NEPA compliance via joint Benton County/BPA EIS
Approvals related to the transmission interconnection	<ul style="list-style-type: none"> • Transmission Interconnection Agreement • Record of Decision • NEPA Compliance/EIS 	BPA	<ul style="list-style-type: none"> • NEPA compliance via joint Benton County/BPA EIS
Consultation	ESA Concurrence	U.S. Fish and Wildlife Service/National Marine Fisheries Service	• Concurrence that there will be no impact on listed species Consultation completed per USFWS Oct. 22, 2002 letter.
	<ul style="list-style-type: none"> • Native American Consultation • Traditional Cultural Properties Survey 	BPA	• <u>Consultation ongoing.-</u>
	Aviation Obstruction Zone	Federal Aviation Administration	• Concurrence that project is not an obstacle to aviation FAA issued a Determination of No Hazard to Air Navigation for the PGF on January 23, 2003.
Other required permits	Water Rights Transfer	Benton County Water Conservancy Board (Dept. of Ecology)	<ul style="list-style-type: none"> • Approved by Benton County Water Conservancy and Ecology. • Ecology approval pending
	Construction Storm Water Discharge Permit	Dept. of Ecology	• <u>To be filed prior to start of construction.-</u>
	Industrial Storm Water Permit	Dept. of Ecology	<ul style="list-style-type: none"> • Under general state permit • Will complete once PGF is under construction.
	Industrial Waste Discharge Permit	Dept. of Ecology	• Engineering report – agricultural use of wastewater.
	Sanitary Waste Discharge Permit	Benton Franklin Health District	<ul style="list-style-type: none"> • Construction of a septic system for sanitary waste • To be filed prior to start of construction.
	Building Permits and Grading Permit	Benton County	• EPC contractor will complete.-
	Highway Access Permits	Benton County/WSDOT	• To be determined.
	Hydraulic Project Approval	Washington Dept. of Fish & Wildlife	<ul style="list-style-type: none"> • Proposed access road crossing of Fourmile Canyon • Submitted JARPA application in May 2003.
	Dam Safety Letter/Permit	Washington State Department of Natural Resources	

BPA = Bonneville Power Administration
CUP = Conditional Use/Special Permit
Ecology = Washington State Department of Ecology
ESA = Endangered Species Act

NEPA = National Environmental Policy Act
SEPA = State Environmental Policy Act
WSDOT = Washington State Department of Transportation

II.D APPENDIX B2 – CONTRIBUTION TO REGIONAL HAZE

- (a) The following text should be added after the third sentence in the third paragraph on the first page.

Note there has been a significant change in the energy market since this baseline source group was identified. The current status of several projects, including those in Wallula and Satsop, is uncertain.

- (b) The following text should be added after the first paragraph on page 5.

A different and more conservative approach to evaluating cumulative impacts is to assume existing sources cause visibility degradation every day of the year. The analysis then considers how often the PGF would contribute to visibility degradation of 0.4 percent or greater, which is the established FLAG2 criterion for this cumulative analysis. This assessment conservatively assumes that the background visibility is representative of the best 10 percent visibility days. Thus, this methodology evaluates impacts based on a good visibility day while applying the impact criterion that applies when the cumulative impact of all man-made sources causes a bad visibility day. Despite these conservative assumptions, the analysis predicted that emissions attributable to PGF could exceed the 0.4 percent change criterion on only 14 days of the year. The results for CRGNSA are summarized in Table 5. Given the conservative nature of this analysis, the PGF's contribution to cumulative visibility degradation in the CRGNSA is not likely to be significant. Another conservative approach to assessing PGF's contribution to visibility degradation involves making a new assumption concerning the facility's volatile organic compound (VOC) emissions. The extent to which emissions of VOCs contribute to visibility degradation remains a topic of research. However, an additional visibility assessment used the conservative assumption that all VOCs emitted by PGF are instantly converted to secondary organic aerosols. Using this assumption, the maximum reduction in visibility in the CRGNSA attributable to PGF would increase from 1.57 to 2.32 percent, which remains well below the 5-percent FLAG criterion established for individual sources. Using this assumption, the number of days when PGF emissions could affect visibility by more than the 0.4 percent FLAG criterion for cumulative impacts increased from 14 (Table 5) to 17 (Table 6).

Several conservative assumptions contribute to this result:

- all VOCs are instantly converted to secondary organic aerosols;
- visibility in the CRGNSA is degraded by existing sources more than 10% for every day of the year;
- background aerosol concentrations in the CRGNSA represent excellent visual conditions for the calculation of the background scattering coefficient (approximately the 90th percentile best visibility);
- no weather phenomena (such as fog) are present that obscure the effects of the predicted change to the extinction coefficient;

- the predicted extinction coefficient is applicable to the entire visual path length from observer to target;
- good visibility in the CRGNSA is equally important for all days and hours of the years; and
- the PGF emits at it's maximum permitted emission rates for all hours of the year.

This series of conservative assumptions results in exaggerated indication of potential regional haze impacts in the CRGNSA.

- (c) **Table 5 should be renamed "Table 7," and the following two tables should be inserted after Table 4.**

Table 5. CRGNSA haze impacts attributable to PGF assuming low background extinction but applying the 0.4% visibility impact criterion			
	<u>Maximum Extinction Attributable to PGF (1/Mm)</u>	<u>Maximum Change in Extinction (%)</u>	<u>Number of Days With Significant Change in Extinction</u>
<u>Spring</u>	<u>0.088</u>	<u>0.31</u>	<u>0</u>
<u>Summer</u>	<u>0.099</u>	<u>0.39</u>	<u>0</u>
<u>Fall</u>	<u>0.322</u>	<u>1.08</u>	<u>10</u>
<u>Winter</u>	<u>0.374</u>	<u>1.57</u>	<u>4</u>
<u>Max/Total</u>	<u>0.374</u>	<u>1.57</u>	<u>14</u>

Table 6. CRGNSA Haze Impacts Attributable to PGF assuming low background extinction and that all VOC emissions form secondary aerosols, and applying the 0.4% impact visibility criterion			
	<u>Maximum Extinction Attributable to PGF (1/Mm)</u>	<u>Maximum Change in Extinction (%)</u>	<u>Number of Days With Significant Change in Extinction</u>
<u>Spring</u>	<u>0.121</u>	<u>0.43</u>	<u>0</u>
<u>Summer</u>	<u>0.138</u>	<u>0.54</u>	<u>1</u>
<u>Fall</u>	<u>0.394</u>	<u>1.30</u>	<u>10</u>
<u>Winter</u>	<u>0.535</u>	<u>2.32</u>	<u>6</u>
<u>Max/Total</u>	<u>0.535</u>	<u>2.32</u>	<u>17</u>